



## LET'S GO HVO

**Hydrotreated vegetable oil** can provide a more sustainable alternative to **fossil fuels** for **mission-critical** power generators in applications such as **data centers** and **hospitals** across southeast Asia.

There is growing interest across southeast Asia in the use of an exciting **renewable fuel** for **mission-critical power generation** that delivers significant environmental benefits compared with conventional fossil-fuel-derived diesel.

**Hydrotreated vegetable oil (HVO)** is made from waste products and residues such as vegetable oils, animal fats, and used cooking oils. It is **100% fossil-free** and **100% recycled**. Since it is obtained from organic material from waste streams, **HVO** — unlike many first-generation **biodiesels** — does not contribute to deforestation.



The technical and performance characteristics of **HVO** mean it is becoming increasingly popular as a **sustainable** alternative to **fossil diesel** for **mission-critical power**. For applications such as generators, **HVO** can reduce **net carbon emissions** by up to **90%** compared to **fossil diesel**, while also delivering a **10% reduction in NOx**.

### Data center and healthcare applications

Recently, Kohler announced that its entire offering of **mission-critical diesel generators** was compatible with **HVO**. That move has prompted a surge of interest across southeast Asia, with **mission-critical** power users in countries such as Indonesia, Taiwan, Singapore and Thailand showing an interest in the **renewable fuel**. These early-stage users are primarily considering **HVO** as a **sustainable** solution for advanced **data center** generators such as the **KD Series**, which maintain continuity of power over extended periods when there is an electricity outage from the **grid**.



However, other applications are increasingly coming to the fore. For example, **healthcare** facilities such as **hospitals** also require **emergency backup** during **grid** failure. And the location of these facilities — often in dense metropolitan areas — means there is a growing need to generate this power while minimizing **greenhouse gases** in the local environment. **HVO** provides a superior, cleaner-burn than existing **fuels** and that feeds through into fewer **emissions** across its lifecycle.

But what factors might prevent **healthcare** facilities from adopting **HVO** across southeast Asia? Firstly, there have been concerns about the availability of the fuel — particularly in more remote locations. However, multi-million-dollar investments are being made in the global supply chain, and **HVO** is becoming more readily available.

New and expanded production facilities have recently been announced in Singapore and Malaysia, and many other plants are in the pipeline. More local supply of **HVO** — closer to the end-user — means reductions in **carbon emissions** usually associated with transportation. Using waste feedstocks encourages shorter **supply chains** than first-generation **biodiesels**, which rely on raw materials shipped worldwide. Furthermore, **HVO** is only likely to be used for backup power in **healthcare** facilities such as **hospitals** — meaning only low volumes will be required.

The second concern is the ability to mix **HVO** with conventional **fossil-fuel-derived diesel**. However, the **HVO** production process ensures that the final product is similar in grade and quality to **fossil diesel**. It can be used as a drop-in for existing infrastructure without modification or impact on maintenance schedules. It is entirely compatible with the standard mix of **fossil diesel** fuels. Therefore, it can also be blended with **fossil diesel** — boosting flexibility for the end-user.

### HVO is powering the future

Ultimately, there are no downsides to using **HVO** in **mission-critical** applications. It has proven its worth as a **renewable fuel** in data centers, with **healthcare** facilities now following suit. As the **supply chain** matures, it could also find use in other settings, such as **airports**, where more sustainable operations are seen as desirable.

In short, **HVO** provides plenty of options in southeast Asia. Its environmental credentials support the use of today's generators for tomorrow's generation.